1   1.   A method of controlling local hardware or software using a browser,

2   comprising:

3   directing an HTTP request from a browser to a local HTTP microserver

4   having an IP address;

5   at the HTTP microserver, parsing the HTTP request to identify a target

6   interface module, and directing the HTTP request to the target interface module;

7   and

8   at the target interface module, generating an API call from the HTTP request.

9

10   2.   The method of claim 1, further comprising sending the API call to a

11   middleware software module.

12

13   3.   The method of claim 2, wherein the middleware software module controls

14   a lower level software code segment.

15

16   4.   The method of claim 3, wherein the lower level software code segment

17   comprises a hardware driver.

18

19   5.   The method of claim 4, further comprising controlling a hardware device

20   using the hardware driver.

21

22

6. The method of claim 5, wherein the hardware device comprises a television tuner, the hardware driver comprises a television tuner driver, and wherein the HTTP request from the browser comprises a request to change a television channel and the API call directs the hardware driver to change the television channel selected by the television tuner.

7. The method of claim 3, wherein the lower level software code segment carries out memory write operations under the direction of the API call.

8. The method of claim 1, wherein the HTTP request is directed to the HTTP microserver by a network stack.

9. The method of claim 8, wherein the network stack comprises a TCP/IP network stack.

1   10.   A method of controlling local hardware or software using a browser,

2   comprising:

3   directing a request from a browser to a local microserver having an address;

4   at the microserver, parsing the request to identify a target interface module,

5   and directing the request to the target interface module; and

6   at the target interface module, generating an application call from the

7   request.

8

9   11.   The method of claim 10, further comprising sending the application call to

10   a middleware software module.

11

12   12.   The method of claim 11, wherein the middleware software module controls

13   a lower level software code segment.

14

15   13.   The method of claim 12, wherein the lower level software code segment

16   comprises a hardware driver.

17

18   14.   The method of claim 13, further comprising controlling a hardware device

19   using the hardware driver.

20

21

1

15. The method of claim 14, wherein the hardware device comprises a television

2 tuner, the hardware driver comprises a television tuner driver, and wherein the

3 request from the browser comprises a request to change a television channel and

4 the application call directs the hardware driver to change the television channel

5 selected by the television tuner.

6

7 16. The method of claim 12, wherein the lower level software code segment

8 carries out memory write operations under the direction of the application call.

9

10 17. The method of claim 10, wherein the request comprises an HTTP request

11 and wherein the microcserver comprises an HTTP microserver and wherein the

12 HTTP request is directed to the HTTP microserver by a network stack.

13

14 18. The method of claim 17, wherein the network stack comprises a TCP/IP

15 network stack.

16

17

1   19.   A television set-top box, comprising:

2   a programmed processor;

3   a browser software segment running on the programmed processor;

4   a user interface software segment running on the programmed processor

5   that receives a user command to select a link using the browser software segment;

6   a network stack receiving messages directed to an IP address from the

7   browser software segment in response to the user command selecting a link, and

8   issuing an HTTP request in response thereto directed to the IP address;

9   a middleware software module running on the programmed processor; and

10   an HTTP microserver having an IP address and running as a software

11   segment on the programmed processor, the HTTP microserver comprising an

12   interface module that interfaces with the middleware software module by issuing

13   an API call to the middleware software module in response to the HTTP request,

14   the API call implementing the user command.

15

16   20.   The television set-top box of claim 19, further comprising a hardware driver,

17   and wherein the middleware software module interfaces to and controls the

18   hardware driver.

19

20   21.   The television set-top box of claim 20, further comprising a television tuner,

21   and wherein the hardware driver comprises a television tuner hardware driver.

22

1 22. The television set-top box of claim 21, wherein the user command comprises

2 a command to change a selected television channel, the API call directs the

3 middleware software module to change channels and the middleware software

4 module directs the television tuner driver to change a channel tuned by the

5 television tuner.

6

7 23. The television set-top box of claim 19, further comprising a segment of lower

8 level software code and wherein the lower level software code segment carries out

9 memory write operations under the direction of the API call.

10

11 24. The television set-top box of claim 19, further comprising a segment of lower

12 level software code and wherein the lower level software code segment carries out

13 memory read operations under the direction of the API call.

14

15 25. The television set-top box of claim 19, wherein the network stack comprises

16 a TCP/IP network stack.

17

18

1   26.   A television set-top box, comprising:

2   a programmed processor;

3   a browser software segment running on the programmed processor;

4   a user interface software segment running on the programmed processor

5   that receives user commands to select a link using the browser software segment;

6   a network stack receiving messages directed to an IP address from the

7   browser software segment in response to user commands that select selecting

8   links, and issuing HTTP requests in response thereto directed to the IP address;

9   a plurality of middleware software modules running on the programmed

10   processor; and

11   an HTTP microserver having an IP address and running as a software

12   segment on the programmed processor, the HTTP microserver comprising a

13   plurality of interface modules that interfaces with the plurality of middleware

14   software modules by issuing API calls to the plurality of middleware software

15   module in response to the HTTP request, the API calls implementing the user

16   commands.

17

18   27.   The television set-top box of claim 26, further comprising a hardware driver,

19   and wherein one of the middleware software modules interfaces to and controls the

20   hardware driver.

21

22

1   28.   The television set-top box of claim 27, further comprising a television tuner,

2   and wherein the hardware driver comprises a television tuner hardware driver.

3

4   29.   The television set-top box of claim 28, wherein one of the user commands

5   comprises a command to change a selected television channel, and wherein one

6   of the API calls directs the one of the middleware software modules to change

7   channels and the one of the middleware software modules directs the television

8   tuner driver to change a channel tuned by the television tuner.

9

10   30.   The television set-top box of claim 26, further comprising a segment of lower

11   level software code and wherein the lower level software code segment carries out

12   memory write operations under the direction of one of the API calls.

13

14   31.   The television set-top box of claim 26, further comprising a segment of lower

15   level software code and wherein the lower level software code segment carries out

16   memory read operations under the direction of the API call.

17

18   32.   The television set-top box of claim 26, wherein the network stack comprises

19   a TCP/IP network stack.

20

21

1   33.   The television set-top box of claim 26, further comprising an HTTP request

2   parser receiving the HTTP requests and selecting one of the plurality of interface

3   modules to direct the HTTP request.

1   34.   A television set-top box, comprising:

2   a programmed processor;

3   a browser software segment running on the programmed processor;

4   a user interface software segment running on the programmed processor

5   that receives user commands to select a link using the browser software segment;

6   a network stack receiving messages directed to an address from the

7   browser software segment in response to user commands that select selecting

8   links, and issuing requests in response thereto directed to the address;

9   a plurality of middleware software modules running on the programmed

10   processor; and

11   a microserver having the address and running as a software segment on the

12   programmed processor, the microserver comprising a plurality of interface modules

13   that interfaces with the plurality of middleware software modules by issuing

14   application calls to the plurality of middleware software module in response to the

15   request, the application calls implementing the user commands.

16

17   35.   The television set-top box of claim 34, further comprising a hardware driver,

18   and wherein one of the middleware software modules interfaces to and controls the

19   hardware driver.

20

21   36.   The television set-top box of claim 35, further comprising a television tuner,

22   and wherein the hardware driver comprises a television tuner hardware driver.

37. The television set-top box of claim 36, wherein one of the user commands comprises a command to change a selected television channel, and wherein one of the application calls directs the one of the middleware software modules to change channels and the one of the middleware software modules directs the television tuner driver to change a channel tuned by the television tuner.

38. The television set-top box of claim 34, further comprising a segment of lower level software code and wherein the lower level software code segment carries out memory write operations under the direction of one of the application calls.

39. The television set-top box of claim 34, further comprising a segment of lower level software code and wherein the lower level software code segment carries out memory read operations under the direction of the application call.

40. The television set-top box of claim 34, wherein the network stack comprises a TCP/IP network stack.

41. The television set-top box of claim 34, further comprising a request parser receiving the requests and selecting one of the plurality of interface modules to direct the request.

1   42.   A television set-top box, comprising:

2   a programmed processor;

3   a browser software segment running on the programmed processor;

4   a user interface software segment running on the programmed processor

5   that receives a user command to select a link using the browser software segment;

6   a TCP/IP network stack receiving messages directed to an IP address from

7   the browser software segment in response to the user command selecting a link,

8   and issuing an HTTP request in response thereto directed to the IP address;

9   a middleware software module running on the programmed processor;

10   an HTTP microserver having an IP address and running as a software

11   segment on the programmed processor, the HTTP microserver comprising an

12   interface module that interfaces with the middleware software module by issuing

13   an API call to the middleware software module in response to the HTTP request,

14   the API call implementing the user command;

15   a television tuner hardware driver, wherein the middleware software module

16   interfaces to and controls the television tuner hardware driver;

17   a television tuner; and

18   wherein the user command comprises a command to change a selected

19   television channel, the API call directs the middleware software module to change

20   channels and the middleware software module directs the television tuner driver to

21   change a channel tuned by the television tuner.

22

1   43.   A television set-top box, comprising:

2   a programmed processor;

3   a browser software segment running on the programmed processor;

4   a user interface software segment running on the programmed processor

5 that receives a user command to select a link using the browser software segment;

6   a TCP/IP network stack receiving messages directed to an IP address from

7 the browser software segment in response to the user command selecting a link,

8 and issuing an HTTP request in response thereto directed to the IP address;

9   a middleware software module running on the programmed processor; and

10   an HTTP microserver having an IP address and running as a software

11 segment on the programmed processor, the HTTP microserver comprising an

12 interface module that interfaces with the middleware module by issuing an API call

13 to the middleware software module in response to the HTTP request, the API call

14 implementing the user command;

15   a segment of lower level software code and wherein the lower level software

16 code segment carries out one of a memory write and a memory read operation

17 under the direction of the API call.

18

19

1   44.   An electronic storage medium storing instructions which, when executed on

2   a programmed processor, carry out a process of controlling local hardware or

3   software using a browser, comprising:

4   directing an HTTP request from a browser to a local HTTP microserver

5   having an IP address;

6   at the HTTP microserver, parsing the HTTP request to identify a target

7   interface module, and directing the HTTP request to the target interface module;

8   and

9   at the target interface module, generating an API call from the HTTP request.

10

11 45.   The electronic storage medium of claim 44, further comprising sending the

12 API call to a middleware software module.

13

14 46.   The electronic storage medium of claim 45, wherein the middleware

15 software module controls a lower level software code segment.

16

17 47.   The electronic storage medium of claim 46, wherein the lower level software

18 code segment comprises a hardware driver.

19

20 48.   The electronic storage medium of claim 47, further comprising controlling

21 a hardware device using the hardware driver.

22

1   49.   The electronic storage medium of claim 48, wherein the hardware device

2   comprises a television tuner, the hardware driver comprises a television tuner

3   driver, and wherein the HTTP request from the browser comprises a request to

4   change a television channel and the API call directs the hardware driver to change

5   the television channel selected by the television tuner.

6

7   50.   The electronic storage medium of claim 46, wherein the lower level software

8   code segment carries out memory write operations under the direction of the API

9   call.

10

11   51.   The electronic storage medium of claim 44, wherein the HTTP request is

12   directed to the HTTP microserver by a network stack.

13

14   52.   The electronic storage medium of claim 44, wherein the network stack

15   comprises a TCP/IP network stack.

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